Code No: **RT41017** **R13** **Set No. 1**

IV B.Tech I Semester Supplementary Examinations, February/March - 2018

AIR POLLUTION AND CONTROL

(Civil Engineering)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any THREE questions from Part-B
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PART–A *(22 Marks)*

1. a) Write briefly on Climate Change. [3]
   b) Explain briefly on Automobile pollution. [4]
   c) Discuss on Wind forces. [3]
   d) Write on Stack Monitoring for flue gases. [4]
   e) Discuss on Cyclone separators. [4]
   f) What are the Environmental friendly fuels? [4]

PART–B *(3x16 = 48 Marks)*

2. a) Classify air pollutants into different categories and indicating their sources. [8]
   b) What is meant by smog? Discuss its effects? [8]

3. a) What are the effects of air pollutants on plants? [8]
   b) Explain with examples how air pollution affects building materials. [8]

4. a) State the Air Quality Standards adopted by EPA. [8]
   b) Explain the procedure of monitoring of SPM and list air quality standards. [8]

5. a) What are the applications of electro static precipitators in various industries? [8]
   b) A cylindrical electrostatic precipitator of diameter 0.4 m is used for separating pulverized coal flyash particles from a furnace gas stream. If the volumetric flow rate of the gas is 0.05 m^3/sec, what will be the length of precipitator for obtaining a collection efficiency of 99.9%. What percent change in electrode collection area is required to increase the collection efficiency from 99.9 to 99.95%. [8]

6. a) What do you understand by thermodynamics kinetics of air pollution? [8]
   b) Write a note on control production of combustion. [8]

7. a) Explain the general method of control of SO*x* emission. [8]
   b) Explain dry methods of removal and re cycling of SO*x*. [8]