

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*

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 $0.05 \text{ m}^3/\text{sec}$, 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]