

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]