H.T.No. | | | | | | | | | | |

Code No: CE1545 **GEC-R14**

IV B. Tech. I Semester Regular Examinations, November 2017

AIR POLLUTION & ITS CONTROL

(Civil Engineering)

Time: 3 Hours **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
Answer any **FOUR** questions from **PART-B.** All Questions carry equal Marks.

PART-A

6 × 2 = 12M

1. a) Mention an air pollution episode caused by industrial accident, specifying the location, year and effects on human population.
   b) Give some examples for non-point sources of air pollution.
2. a) What are the effects of oxides of Sulphur on vegetation?
   b) Mention the type of industries responsible for acid rains.
3. a) How does temperature change in mesosphere?
   b) Define wind belt.
4. a) What is the composition of natural gas?
   b) Define air fuel ratio.
5. a) Write the equation used to calculate the efficiency of ESP.
   b) How do raw materials affect particulate pollution?
6. a) What are different adsorbents used for gaseous pollution control?
   b) As per national ambient air quality standards what is the concentration limit of SO_2 in industrial area in micro gm/m^3**.**

PART-B

4 × 12 = 48M

1. a) Define Air Pollution? How do you classify various types Air Pollution. (6M)
   b) Explain in detail photo chemical smog and its effects. (6M)
2. a) Explain how different types of synthetic fertilizers and pesticides affects air quality. (6M)
   b) Explain about ozone layer depletion process and mention places in the world which are affected by ozone layer depletion. (6M)
3. a) With neat diagram explain plume behavior in different environments. (6M)
   b) What are various meteorological parameters significant in air pollution and explain in detail about any one parameter. (6M)
4. a) Explain thermodynamics of SO_x formation. (6M)
   b) Find AFR (air fuel ratio) for formaldehyde if 90% excess air used for combustion. (6M)

5. a) Design a parallel type electrostatic precipitator with 10 channels to handle 10000 m^3/hr. of gas for efficiency.
   i) 90% ii) 97%. (8M)

   b) Explain filter cleaning methods. (4M)

6. a) Write in detail about catalytic combustion. (6M)

   b) Explain about location of sampling ports and traverse points. (6M)

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