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10CV765

Seventh Semester B.E. Degree Examination, Dec.2015/Jan.2016
Air Pollution and Control

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions, selecting atleast TWO questions from each part.*

PART – A

1 a. Define Air pollution. Explain primary and secondary air pollutants with examples.**(10 Marks)**
   b. Explain the effects of photochemical smog on human beings and plants.   **(10 Marks)**

2 a. Briefly explain the effects of air pollution on :
      i) Human health   ii) Plants   iii) Animals   iv) Materials.   **(10 Marks)**
   b. Discuss the following cases of air pollution episodes :
      i) Bhopal Gas Tragedy   ii) Los Angeles Smog.   **(10 Marks)**

3 a. Explain with neat sketches, how different atmospheric conditions give rise to different kinds of plumes.   **(10 Marks)**
   b. Explain the terms :
      i) Environmental Lapse Rate (ELR)   ii) Adiabatic Lapse Rate (ALR)
      iii) Wind Rose (WR)   iv) Inversions.   **(10 Marks)**

4 a. List the factors that should be taken into consideration while selecting a site for an industry from the point of minimizing air pollution.   **(10 Marks)**
   b. Explain different methods of gaseous air pollutants sampling from the ambient atmosphere.   **(10 Marks)**

PART – B

5 a. Explain with neat sketches the principle and working of the following :
      i) Cyclone separator   ii) Electrostatic precipitators.   **(10 Marks)**
   b. Enumerate the various analytical methods available for monitoring air pollution.   **(10 Marks)**

6 a. Explain briefly the principal emission from gasoline driven and diesel driven vehicles.   **(10 Marks)**
   b. What are the various approaches to minimize exhaust emissions? Explain.   **(10 Marks)**

7 a. What is Acid rain? What are the causes for acid rain? What are the effects of acid rain on vegetation?   **(10 Marks)**
   b. Describe the phenomenon of "green house effect", due to carbon dioxide.   **(10 Marks)**

8 Write short notes on any four of the following :
   a. Water quality standards.
   b. Ozone layer depletion.
   c. Adsorption by solids.
   d. Stack gas sampling.
   e. Environmental policy.   **(20 Marks)**

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