GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. Sem. - V - Examination – June- 2011
Subject code: 151305
Subject Name: Air Pollution & Control

Date:30/06/2011   **Time: 10:30 am – 01:00 pm**
                                                              Total Marks: 70

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** What is Maximum Mixing depth? How it is determined? What is its importance? **07**

   (b) List important meteorological parameter that influencing Air Pollution and explain any one in Detail. **07**

Q.2 **(a)** Explain A/F ratio in detail. **07**
   (b) Write a short note on emission reduction by engine design changes. **07**
   OR
   (b) Write a short note on Alternative Fuel. **07**

Q.3 **(a)** The ozone concentration sometimes reaches a value of 0.20ppm over a 1hr period in urban areas with photochemical smog problems. Determine by what percentage this level exceeds the ambient quality standard of 250 μg/ m^3 for the given time period, if the temperature is 25^{0}C. **07**

   (b) Which instrument is required to measure the SPM & RSPM? Describe in briefly for instrument. **07**
   OR
Q.3 **(a)** On the basis of the average temperature gradient in the situations described, classify the degree of stability of the atmosphere & determine the potential temperature gradient. **07**
   (a) Temperature at ground level is 70^{0}C; temperature at 1500ft is 80^{0}C.
   (b) Ground level temperature is 70^{0}C; temperature at 2500ft is 60^{0}C.
   (c) Ground level temperature is 25^{0}C; temperature at 2000m is 5^{0}C.
   (d) Ground level temperature is 25^{0}C; temperature at 700m is 28^{0}C.

   (b) Give the classification of plume behavior. **07**

Q.4 **(a)** What are the ill effects of CO on human health, vegetation, plants and property? **07**
   (b) Write a short note on Cyclone separator. **07**
   OR
Q.4 **(a)** Explain in brief Electrostatic Prcipitator. **07**
   (b) Give the classification of Air Pollutants and sources of air pollution. **07**

Q.5 **(a)** Explain the causes and control of Odour problem. **07**
   (b) Explain following Episodes: **07**
      (i) Meuse valley (ii) Donora (iii) London (iv) Bhopal (v) Los Angeles
   OR
Q.5 **(a)** What is noise pollution? Describe sources of noise pollution. **07**
   (b) What is wind rose diagram? How it is constructed? Explain its application. **07**

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