Code No: NR420302 **NR**

**IV B.Tech II Semester Supplementary Examinations, Apr/May 2006**
**ENVIRONMENT AND POLLUTION CONTROL**
**( Common to Mechanical Engineering and Production Engineering)**
**Time: 3 hours** **Max Marks: 80**

**Answer any FIVE Questions**
**All Questions carry equal marks**

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1. (a) Discuss the classification of pollutants.
   (b) Discuss primary and secondary air pollutants. [6+10]
2. (a) Mention the mechanism of deterioration of materials due to the various air pollutants?
   (b) Give the anatomy of the respiratory system in humans and mention the effect of air pollutants on the system? [8+8]
3. (a) Explain thermodynamics of formation of $NO_x$
   (b) Explain thermodynamics of formation of CO. [8+8]
4. (a) Write about dispersion of air pollutants.
   (b) Explain about atmospheric stability. [8+8]
5. (a) How does the wind effect on dispersion of Pollutants.
   (b) Explain the estimation of dispersion coefficient of a spreading plume. [8+8]
6. (a) Name and discuss four methods of controlling emissions at the source.
   (b) Discuss the Gaseous pollutant control systems based on absorption in a liquid. [8+8]
7. (a) Explain the working principle of a cyclone separators with a neat sketch.
   (b) A cyclone of standard dimensions with a diameter of 1.6m process $4.5m^3$ /s of air with a temperature of 50 C. Determine the minimum diameter of the particle which can be completely removed if the specific gravity of the particle is 1.2. Assume necessary data suitably. [8+8]
8. Suggest a suitable scheme for monitoring the ambient air quality of an industrial area. [16]

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