

GUJARAT TECHNOLOGICAL UNIVERSITY**M.E –IIst SEMESTER–EXAMINATION – JULY- 2012****Subject code: 1721707****Date: 12/07/2012****Subject Name: Air Pollution Control****Time: 10:30 am – 13:00 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) Discuss natural and anthropogenic sources of air pollution in detail. **07**
(b) List out the effects of air pollution on humans and on environment. Explain any one effect on each in detail. **07**

- Q.2** (a) What do you mean by ubiquitous pollutant? With neat figure explain SPM sampling train. **07**
(b) Distinguish absorption and adsorption clearly. Use figures if necessary. Explain the absorption technique for sulfur dioxide. **07**

OR

- (b) Differentiate particulate and VOC. Discuss in detail control of VOC by prevention. **07**

- Q.3** (a) What is ambient measurement in context of air pollution? What are national ambient air quality standards? Give vitals of The Air (Prevention and Control of Pollution) Act, 1981. **07**
(b) Using neat figure, explain various layers of atmosphere of Earth. **07**

OR

- Q.3** (a) Explain the importance of meteorology study in air pollution. What is 'adiabatic lapse rate'? **07**
(b) Discuss the importance of winds in air pollution studies. Explain 'wind rose diagram' with neat figure. **07**

- Q.4** (a) Define dust, fume and smoke. Using neat diagram with details, explain bag houses. **07**
(b) What is the most basic principle of chimney design? With neat diagram, explain 'draft'. **07**

OR

- Q.4** (a) Discuss with figure – 'Selective Catalytic Reduction' **07**
Q.4 (b) Explain the electromagnetic radiation from sun. Establishing its context to CO₂, discuss in detail the role of CO₂ as GHG. **07**

- Q.5** (a) Differentiate – gravity settlers and centrifugal separators. **07**
(b) Discuss in detail – 'Gaussian Plume Model' in context to air pollution studies. **07**

OR

- Q.5** (a) Discuss the scenario of automobile air pollution in India with proper statistics. **07**
(b) List out the emission of various greenhouse gases, with different automobile fuels. Discuss any one GHG in detail in this context. **07**
