

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII • EXAMINATION – WINTER • 2014****Subject Code: 180608****Date: 25-11-2014****Subject Name: Air Pollution Control****Time: 02:30 pm - 05:00 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) Enlist various Air Pollution disasters in the world and explain any two of them in detail. **07**
- (b) Enlist the different meteorological parameters affecting the dispersion of air pollutants in the atmosphere. Explain any two of them in detail. **07**
- Q.2** (a) Explain with illustration the probable relation between “Asthma and Air Pollution.” **07**
- (b) Mention various pollutants emitted from an automobile. How the pollutant concentration varies according to change in air –fuel ratio. **07**
- OR**
- (b) Write a short note on “Economic Effects of Air Pollution.” **07**
- Q.3** (a) Explain in brief different methods used for analysis of SO₂. **07**
- (b) A factory uses 3,00,000 liters of furnace oil (specific density 0.97) per month. If for one million litres of oil used per year, the particulate matter emitted is 3.0 tonnes per year, SO₂ emission is 58.3 tonnes per year, NO_x emission is 7.0 tonnes per year, HC emission is 0.37 tonnes per year, and Co emission is 0.5 tonnes per year. Calculate the height of chimney required to be provided for safe dispersion of the pollutant. **07**
- OR**
- Q.3** (a) Describe with neat sketch, how different atmospheric condition give rise to different kind of plume. **07**
- (b) Explain how ‘substitution of raw material or fuel’ and ‘process change’ can help to control of air pollution at source. **07**
- Q.4** (a) Briefly explain Gaussian Plume Model with its assumptions and limitations. **07**
- (b) Describe various considerations for collection of representative ambient air sample. **07**
- OR**
- Q.4** (a) What is global warming? Discuss the mechanism and explain the control measures. **07**
- (b) Write a short note on “Gravity Settling Chamber.” **07**
- Q.5** (a) Enlist different methods for collection of gaseous sample from a stack? Describe any one with a neat sketch. **07**
- (b) Write a brief note on “cyclone separator.” **07**
- OR**
- Q.5** (a) Explain “Adsorption” and “combustion” as a method of control of gaseous pollutant. **07**
- (b) Explain in brief “History of Air Pollution.” **07**
