Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VIII.EXAMINATION – WINTER 2016

Subject Code: 180608 Date: 24/10/2016

Subject Name: Air Pollution Control (Department Elective-II)

Time: 02:30 PM to 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)**	Explain the methods of identifying air pollution and List out the industries that cause major air pollution problems.	**07**
	(b)	State the phenomena of Green house effect. State its implications and Control measures.	**07**
Q.2	**(a)**	Define Photochemical Smog. Discuss it causes and Effects of it.	**07**
	(b)	Describe the mechanisms of action of air pollutants on materials.	**07**
		OR	
	(b)	Enlist various air Pollution disasters in the world and explain any two of them in detail.	**07**
Q.3	**(a)**	Enlist the different meteorological parameters affecting the dispersion of air pollutants in the atmosphere. Explain any two of them in detail.	**07**
	(b)	Write short note on " Environmental friendly alternative fuels"	**07**
		OR	
Q.3	**(a)**	Explain the following terms with their significance in air pollution. (I) Effective stack height (II) Wind rose diagram	**07**
	(b)	Discuss: plume behavior under different atmospheric conditions.	**07**
Q.4	**(a)**	What are the objectives of stack sampling? Discuss the importance of isokinetic sampling with sketch.	**07**
	(b)	Enlist the different types of absorbers used in gaseous pollutant control. Explain any one in detail.	**07**
		OR	
Q.4	**(a)**	Write a short note on "Gravity Settling Chamber".	**07**
	(b)	Sketch and explain working and use of a "Electrostatic Precipitator" as particle removal device from the gas stream.	**07**
Q.5	**(a)**	Sketch and explain the principle, construction and working of a bag house filter.	**07**
	(b)	A thermal power plant burns 150 tonnes of coal with 6.5 % sulphur content. Calculate minimum stack height required. The particulate concentration in flue gases is $8000 mg/m^3$ and the gas flow rate is $30 m^3/sec$.	**07**
		OR	
Q.5	**(a)**	What is RSPM? Describe the procedure for collection of RSPM for ambient air quality monitoring.	**07**
	(b)	Write short note on "Legislation for control of air pollution and automobile pollution.	**07**

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