

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020****Subject Code:2171302****Date:19/01/2021****Subject Name:Air Pollution Control and Management****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

	Marks
Q.1 (a) Differentiate between Ambient air Quality standard and Emission Standard.	03
(b) Enlist the particulate control mechanism and explain any one.	04
(c) Explain the construction and working of Electrostatic precipitator with neat and clean diagram.	07
Q.2 (a) Explain Gravity Settler as a particulate control equipment.	03
(b) Explain “why tall stack dispersion method for SO _x control is not used?”	04
(c) Write a short note on turbojet engine.	07
Q.3 (a) Explain desulphurization of fuel as a pre combustion control method for SO _x control.	03
(b) Which particulate control equipment is best suited to control particulate matters emitted from coal based thermal power plant. Justify your answer.	04
(c) Explain thermodynamics of sulfure oxide formation.	07
Q.4 (a) Write a brief note on “Carbon adsorption method” for SO _x control.	03
(b) Explain various mechanism of formation of Nitrogen oxides.	04
(c) Enlist the pre combustion control mechanism for NO _x control and explain any one in detail.	07
Q.5 (a) How engine design changes to reduce automobile pollution.	03
(b) Write a brief note on “ Hydro carbon Reactivity”	04
(c) Write a short note on “ VOC Control mechanism”	07

- Q.6** (a) Define the following terms: (i) Stoichiometric Air-Fuel Ratio, (ii) Lean mixture (iii) Rich Mixture. **03**
- (b) Explain the role of oxides of nitrogen in photooxidation. **04**
- (c) List down the various air pollution episodes and explain any one in detail. **07**
- Q.7** (a) List down the various air pollutants emitted from Aluminum industry. **03**
- (b) Explain stratified charge engine. **04**
- (c) Identify the various sources of air pollution from Mineral processing industry and also suggest the most suited control measures. **07**
- Q.8** (a) List down the various air pollutants emitted from cement industry. **03**
- (b) Differentiate between selective and non selective catalytic reduction for NO_x Control. **04**
- (c) Identify the various sources of air pollution from Fertilizer processing industry and also suggest the most suited control measures. **07**

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