

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:3170212****Date:10/06/2022****Subject Name:Automotive Pollution and Control****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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Write short note on Indian Emission Standards	03
	(b) List out major reason for producing HC and NO _x in SI Engine vehicle.	04
	(c) Explain Exhaust Gas Recirculation in SI Engine with neat sketch.	07
Q.2	(a) Explain effect of different air pollutants on human and Environment.	03
	(b) Explain Positive Crankcase Ventilation in SI Engine.	04
	(c) What is Function of Catalytic Converter? Explain its working with neat sketch	07
	OR	
	(c) Explain Encapsulation technique for noise reduction in Automobile	07
Q.3	(a) Write short note on noise pollution	03
	(b) Define Smoke and Discuss different factors which affect smoke formation in CI Engine.	04
	(c) Explain working of Ionization detector used to measure HC-Emission in Exhaust.	07
	OR	
Q.3	(a) How knock emission are caused? What are their effect on Environment	03
	(b) What Engine Modification are used to reduce emission from SI Engine	04
	(c) Explain working of HCCI Engine	07
Q.4	(a) Write a note on Diesel Particulate Filters	03
	(b) How Automobile Emission Contribute to Green House Effect?	04
	(c) Write a note on Gas chromatography	07
	OR	
Q.4	(a) How Air-fuel ratio affects the amount of pollutants in gases	03
	(b) Explain working principle of Evaporative emission control system.	04
	(c) Explain Selective catalytic reduction Method	07
Q.5	(a) List out remedies for reducing concentration of NO _x .	03

- (b) Explain about NDIR (Non Dispersive Infrared) analyzer for measuring CO & CO₂. **04**
- (c) List the name of Smoke Controlling Method & explain any one. **07**
- OR**
- Q.5** (a) Write Short note on- Charcoal Canister. **03**
- (b) Explain FID (Flame Ionization Detector) method for measuring HC concentration. **04**
- (c) Explain working of Chemiluminescent Analyzer **07**
