Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–VII EXAMINATION – WINTER 2025

Subject Code:3170212 Date:01-12-2025

Subject Name:Automotive Pollution and Control

Time:10:30 AM TO 01:00 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 US and Europe emission standard.	**03**
	(b)	What is air pollution and Discuss source of air pollution?	**04**
	(c)	Write short note on catalytic converter.	**07**
Q.2	**(a)**	Explain Evaporative Emission Control	**03**
	(b)	Explain the Diesel smoke meter.	**04**
	(c)	Write short note on Fumigation, Diesel Oxidation Catalysts, Diesel de-NOx Catalysts, NOx traps.	**07**
		OR	
	(c)	Explain formation of white, blue and black smoke.	**07**
Q.3	**(a)**	Explain the stage of combustion in S.I. Engines.	**03**
	(b)	List various methods to control exhaust emission in SI engine.	**04**
	(c)	Explain the operation of Exhaust gas re-circulation (EGR) system.	**07**
		OR	
Q.3	**(a)**	Explain secondary air injection system.	**03**
	(b)	Explain evaporative emission control system with sketch.	**04**
	(c)	Explain with neat sketch EGR. With EGR Cooling and Heating.	**07**
Q.4	**(a)**	Write the concept s about HC and causes of high HC	**03**
	(b)	Explain With Sketch positive crankcase ventilation system	**04**
	(c)	Explain formation of soot, particulate matter and NOx	**07**
		OR	
Q.4	**(a)**	Explain the theoretical air-fuel ratio	**03**
	(b)	In short Explain formation of white and black smoke.	**04**
	(c)	In Automobile in list sources of noise pollution and its effect and remedies.	**07**
Q.5	**(a)**	How O_2 sensor control the Air-fuel ratio in the MPFI system	**03**
	(b)	Explain in Short Constant Volume Sampling (CVS) Procedure for driving cycles	**04**
	(c)	Explain the various causes of noise pollution and remedy to minimize it.	**07**
		OR	
Q.5	**(a)**	Write a short note on Noise Measurement.	**03**
	(b)	Write the method of measuring of CO and CO_2 concentration.	**04**
	(c)	Noise Reduction in Automobiles Encapsulation technique for noise reduction - Silencer Design.	**07**

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