

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023****Subject Code:3170212****Date:19-12-2023****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) Explain formation of white, blue and black smoke.	03
	(b) What contribution of vehicular pollution in global warming?	04
	(c) Write about vehicle emission standards followed in India.	07
Q.2	(a) Write short note on noise pollution.	03
	(b) What is blow by gas? What are its undesirable effects?	04
	(c) Explain the operation of Exhaust gas re-circulation (EGR) system.	07
	OR	
	(c) Explain the various causes of noise pollution and remedy to minimize it.	07
Q.3	(a) Write about pollution from SI engines.	03
	(b) Explain positive crankcase ventilation system.	04
	(c) Write the advantages and disadvantages of CNG fuels.	07
	OR	
Q.3	(a) Write about new fuels used to reduce pollution.	03
	(b) Explain the air injection system with neat sketch.	04
	(c) Explain working of HCCI Engine.	07
Q.4	(a) Explain quenching zone.	03
	(b) Write the precaution for measurement in diesel smoke meter.	04
	(c) Write short note on catalytic converter.	07
	OR	
Q.4	(a) Write the method of measuring of CO and CO ₂ concentration.	03
	(b) How octane number affects SI engine emission?	04
	(c) List different components of CNG kit with their functions.	07
Q.5	(a) How Air-fuel ratio affects the amount of pollutants in gases.	03
	(b) Explain silencer design for vehicle.	04
	(c) Explain Particulate emission measurement.	07
	OR	
Q.5	(a) Explain formation of soot, particulate matter and NO _x .	03
	(b) Explain working principle of fuel cells with neat sketch.	04
	(c) Explain use of Chemiluminescent Analyzer (CLA).	07
