

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2022****Subject Code:3170212****Date:12-01-2023****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) List of Indian emission standard.	03
	(b) Give the definition of air pollutants and list various air pollutants.	04
	(c) Explain Exhaust gas re-circulation (EGR) system in detail.	07
Q.2	(a) Draw the sketch of earth's atmosphere and explain air pollutants harmful effects.	03
	(b) Explain the Diesel smoke meter.	04
	(c) Explain Positive Crank case ventilation system.	07
OR		
	(c) Explain Evaporative Emission Control.	07
Q.3	(a) Explain formation of HC	03
	(b) Explain Catalytic Converter.	04
	(c) Explain formation of white, blue and black smoke.	07
OR		
Q.3	(a) Explain formation of CO.	03
	(b) Explain secondary air injection system.	04
	(c) Explain formation of soot, particulate matter and NOx	07
Q.4	(a) How to reduce engine noise?	03
	(b) How to reduce aerodynamic noise?	04
	(c) Explain encapsulation technique for noise reduction.	07
OR		
Q.4	(a) How to reduce exhaust noise?	03
	(b) How to reduce transmission noise?	04
	(c) Explain silencer design for vehicle.	07
Q.5	(a) Explain Indian driving cycle.	03
	(b) Explain constant volume sampling for driving cycle.	04
	(c) Explain Particulate emission measurement.	07
OR		
Q.5	(a) Explain gas chromatography.	03
	(b) Write procedure to test vehicle on chassis dynamometer.	04
	(c) Explain use of Chemiluminescent Analyzer (CLA).	07
