

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024****Subject Code:3170212****Date:16-12-2024****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) What is Pollution? And list various types of Pollution. **03**
 (b) Enlist various effects of pollution on environment and human. **04**
 (c) Explain Emission Standards for India and compare it with recent Euro norms. **07**

Q.2 (a) Explain various Emission formation in SI Engines. **03**
 (b) Explain Evaporative Emission Control system with neat sketch. **04**
 (c) Explain different types of catalytic converter. **07**

OR

(c) Explain Exhaust Gas Recirculation and secondary air injection system. **07**

Q.3 (a) Explain Formation of White, Blue, and Black Smokes, Soot, Particulate Matter from CI engine. **03**
 (b) Explain Diesel Oxidation Catalysts and Diesel de-NOx Catalysts **04**
 (c) Enlist different types of SI engine emission Control devices. **07**

OR

Q.3 (a) Enlist different Fuel Injection System for CI engine. **03**
 (b) Explain EGR Control and EGR Cooling and Heating devices. **04**
 (c) Explain lean NOx traps (LNT) and Diesel Particulate Filters for BS VI Engine. **07**

Q.4 (a) Explain Noise reduction technique in Automobiles. **03**
 (b) Explain Cold start emission control for SI Engine. **04**
 (c) Discuss why it is require to use of unleaded petrol. **07**

OR

Q.4 (a) Explain briefly of Engine Noise, Transmission Noise, vehicle structural Noise, aerodynamics Noise, Exhaust Noise. **03**
 (b) Explain working and construction of HCCI Engines. **04**
 (c) What are the Encapsulation technique for noise reduction and Silencer Design? **07**

Q.5 (a) What do you means by ECE and EUDC driving cycle? **03**
 (b) Explain Indian driving cycles for test. **04**
 (c) Explain Constant Volume Sampling (CVS) Procedure for driving cycles. **07**

OR

Q.5 (a) What are the uses of Smoke meters ? **03**
 (b) Elaborate of Gas Chromatography for emission testing. **04**
 (c) What are the different method of Particulate Emission Measurement? **07**
