

CBCS SCHEME

USN

--	--	--	--	--	--	--	--	--	--

18AU643

Sixth Semester B.E. Degree Examination, June/July 2024

Automotive Pollution and Control

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Discuss, briefly historical background and regulatory test procedure. (10 Marks)
b. Discuss the influence of actual traffic condition and vehicle maintenance on the pollution. (10 Marks)

OR

- 2 a. Briefly, explain the effects of air pollutants on the following : (10 Marks)
i) Human being ii) Plants
b. Discuss the effects of global warming. (10 Marks)

Module-2

- 3 a. Explain NO formation in spark ignition engines and explain about the factors influencing NO formation. (10 Marks)
b. Write a short note on Carbon Monoxide Emissions. (10 Marks)

OR

- 4 a. What is UBHC? Explain the sources of UBHC. (10 Marks)
b. Explain the terms : i) Soot formation ii) Crankcase emission. (10 Marks)

Module-3

- 5 a. Explain with neat sketch. Exhaust Gas Recirculation (EGR) system for the reduction of NO_x emission. (10 Marks)
b. Explain, briefly the pollution control measures in SI engine. (10 Marks)

OR

- 6 a. Discuss the effect of following gasoline properties on emission. (10 Marks)
i) Fuel density ii) Olefins and aromatics
b. Briefly discuss any five properties of diesel fuel which influence the emission from diesel engine. (10 Marks)

Module-4

- 7 a. What are the exhaust gas contents before the treatment? (10 Marks)
b. Explain with neat sketch, the construction and working of a catalytic converters. (10 Marks)

OR

- 8 a. Discuss the thermal reactors used for exhaust gas treatment. (10 Marks)
b. Briefly classify the different types of Catalytic converter. (10 Marks)

Module-5

- 9 a. List out the different gas sampling methods and explain any two in detail. (10 Marks)
b. Briefly, discuss the gravimetric method and volumetric method. (10 Marks)

OR

- 10 a. Explain the construction and working of a orsat gas analyzer with neat sketch. (10 Marks)
b. Explain with sketch, Bosch smoke meter with working principle. (10 Marks)

* * * * *

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.