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Total Pages : 03

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May 2025

B. Tech. (Sixth Semester)

Air and Noise Pollution Control (PEC-CV403-1)

Time : 3 Hours] [*Maximum Marks : 75*

Note : It is compulsory to answer all the questions (1.5 marks each) of Part A in short. Answer any *four* questions from Part B in detail. Different sub-parts of a question are to be attempted adjacent to each other.

Part A

1. (a) What do you understand by indoor air pollution ? **1.5**

   (b) Define photochemical oxidants. **1.5**

   (c) What is wind velocity and turbulence ? **1.5**

   (d) Define temperature lapse rate. **1.5**

   (e) What is wet collector ? **1.5**

(f) What do you understand by electrostatic precipitators ? 1.5

(g) Define Automotive emission control. 1.5

(h) What is catalytic convertor ? 1.5

(i) Define sound intensity and sound pressure levels. 1.5

(j) Differentiate Infrasound and Ultrasound. 1.5

Part B

2. (a) Discuss in detail the composition and structure of the atmosphere and its relevance to air pollution. 10

   (b) Define air pollution and list major air pollutants. 5

3. (a) Write short note on meteorological parameters affecting air pollution. 5

   (b) Explain in detail the Gaussian Plume Model along with assumptions and applications. 10

4. Compare the efficiency of cyclone separator, ESP, and baghouse filters. 15

5. (a) Describe catalytic converters and their role in emission control. 5

   (b) Compare Euro-I, Euro-II and Euro-III standards. 10

6. (a) Explain in detail various methods for control of gaseous pollutants : absorption, adsorption, condensation and combustion. 10

   (b) Discuss noise instrumentation and monitoring procedures. 5

7. Discuss different sound sources (point. line. plane) and their propagation characteristics. 15

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