Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S8 (S) Examination September 2025 (2019 Scheme)

Course Code: CET464
Course Name: AIR QUALITY MANAGEMENT

Max. Marks: 100   **Duration: 3 Hours**

PART A
Answer all questions, each carries 3 marks.   Marks

1	List the criteria pollutants as defined by EPA.?	(3)
2	Explain one industrial process that causes air pollution. ?	(3)
3	Which are the sources of indoor air pollutants ?	(3)
4	Explain the impact of air pollutants on animals and wildlife.?	(3)
5	Define temperature lapse rate ?	(3)
6	Why a lofting plume is considered the most ideal case for the dispersion of air pollutants?	(3)
7	Enlist the different techniques used for collecting gaseous air pollutants.	(3)
8	Explain Emission Inventory and its significance in air quality management.	(3)
9	What is scrubbing in air pollution control, and how does it help in pollutant removal?	(3)
10	Compare the merits and demerits of fabric filter.	(3)

PART B
Answer any one full question from each module, each carries 14 marks.
Module I

11	Examine the history of air pollution episodes. Choose three significant events and analyze their causes, effects, and the measures taken to mitigate their impact.	(14)

OR

12	Provide a brief explanation of the atmosphere and its major components.	(14)

Module II

13	Discuss the sources and effects of hydrocarbons and carbon monoxide in ambient air.	(14)

OR

14	a)	Describe the respiratory illnesses resulting from air pollution	(7)
	b)	Explain the greenhouse effect and its role in global climate change.	(7)

Module III

15 a) Explain the influence of wind velocity and atmospheric turbulence on pollutant   (4)
        dispersion.

    b) Classify the atmospheric stability conditions and explain the characteristics of   (10)
        each stability category.

OR

16   Write a short note on Gaussian Plume model. Discuss its assumptions, advantages   (14)
        and limitations.

Module IV

17   Discuss the importance of air quality monitoring. Explain any two methods used   (14)
        for sampling gaseous pollutants in ambient air.

OR

18   Briefly explain the impingement and precipitation techniques used for sampling   (14)
        particulate matter in ambient air.

Module V

19   What are the various measures used to control gaseous air pollutants? Explain any   (14)
        two methods in detail.

OR

20 a) Describe the working of a cyclone separator with a neat sketch, and explain its   (7)
        application in air pollution control.

    b) Explain the combustion-based thermal methods used for air pollution control.   (7)

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