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APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S8 (S,FE) (FT/WP) Examinations September 2026 (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		Explain the greenhouse effect and how it contributes to climate change.	(3)
2		List three sources of indoor air pollutants.	(3)
3		What is acid rain? How does air pollution lead to its formation?	(3)
4		Explain how air pollution affects vegetation.	(3)
5		What are the assumptions underlying the Gaussian plume model for air Pollutant dispersion?	(3)
6		What is a temperature inversion?	(3)
7		List out the different techniques used for collecting gaseous air pollutants.	(3)
8		Write a short note on AQI	(3)
9		Explain the working of a cyclone separator.	(3)
10		Compare and contrast the different methods for controlling gaseous air Pollutants	(3)

PART B

Answer any one full question from each module, each carries 14 marks.

Module I

11	a)	Classify air pollutants based on their sources and briefly explain each category with suitable examples	(7)
	b)	Discuss any one pollution episode with special reference to its cause, atmospheric conditions, and its impacts.	(7)

OR

12	a)	Explain the criteria pollutants and their sources.	(8)
	b)	What are the biotic and abiotic components of the environment, and how do they interact?	(6)

Module II

13	a)	Explain the effects of air pollution on animal health and ecosystems.	(6)

b) Explain the effects of indoor air pollutants (8)

OR

14 Compare the sources and effects of Carbon monoxide and particulate matter in the ambient air (14)

Module III

15 a) Discuss the meteorological factors which influence the dispersion of air pollutants. (8)

b) Explain the different types of air pollutant plumes and their behaviour. (6)

OR

16 a) Describe the Gaussian plume model. Discuss its advantages and disadvantages. (8)

b) Define Pasquill Stability Classes and explain their role in atmospheric dispersion. (6)

Module IV

17 Mention different methods used for sampling particulate matter pollutants. Describe the working of any two in detail. (14)

OR

18 a) Enlist the objectives of air sampling and the difficulties involved in sampling. (7)

b) What is an emission inventory, and how does it contribute to effective air quality management? (7)

Module V

19 Compare and contrast the different methods for controlling gaseous air pollutants, including adsorption, absorption, and thermal methods (14)

OR

20 a) Discuss any two source correction methods for air pollution control. (7)

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

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