

B

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Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

B.Tech Degree S8 (R,S) / S6 (PT) (R,S) Exam April 2025 (2019 Scheme)

**Course Code: CET464**

**Course Name: AIRQUALITY MANAGEMENT**

**Max. Marks: 100**

**Duration: 3 Hours**

**PART A**

*Answer all questions, each carries 3 marks.*

Marks

- |    |  |     |
|----|--|-----|
| 1  | Define air pollution. What are the primary and secondary pollutants?             | (3) |
| 2  | Distinguish between natural and man-made sources of air pollution.               | (3) |
| 3  | What is indoor air pollution? Name two common sources.                           | (3) |
| 4  | What is the greenhouse effect?   | (3) |
| 5  | What are the assumptions of the Gaussian plume model.                            | (3) |
| 6  | What is a temperature inversion?   | (3) |
| 7  | List the methods for the collection of particulate air pollutants.               | (3) |
| 8  | Discuss the role of ambient air quality standards in pollution control.          | (3) |
| 9  | Describe scrubbing methods of controlling particulate emissions from industries. | (3) |
| 10 | Describe the thermal method of gaseous emission controlling from industries.     | (3) |

**PART B**

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

**Module I**

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|----|---|------|
| 11 | a) Discuss any four major air pollution episodes. | (14) |
|----|---|------|

**OR**

- |    |  |      |
|----|--|------|
| 12 | a) List the criteria pollutants. Also explain their sources and effects. | (14) |
|----|--|------|

**Module II**

- |    |   |     |
|----|---|-----|
| 13 | a) Discuss the effects of air pollutants, sulphur dioxide (SO <sub>2</sub> ) and particulate matter (PM) on human health. | (8) |
|    | b) Discuss the effects of air pollution on materials and infrastructure.  | (6) |

**OR**

- |    |  |      |
|----|--|------|
| 14 | a) What are the effects of fluorine (F), ozone (O <sub>3</sub> ) and nitrogen oxides (NO <sub>x</sub> ) on vegetation and animals? | (14) |
|----|--|------|

**Module III**



- 15 a) Explain how wind speed, atmospheric stability, and temperature lapse rate (14)  
influencing the dispersion of air pollutants.

OR

- 16 a) Describe the Gaussian plume model. Discuss its advantages, and (8)  
disadvantages.  
b) What are the different types of air pollutant plumes and their behaviour. (6)

**Module IV**

- 17 a) How air quality standards help in controlling air pollution? (8)  
b) What are the difficulties in air sampling? (6)

OR

- 18 a) Describe different technique for the collection of gaseous air pollutants. (14)

**Module V**

- 19 a) Explain the methods, cyclones and filtration in controlling particulate (14)  
emissions from industries.

OR

- 20 a) Explain the methods of adsorption and absorption in controlling gaseous air (14)  
pollutants.

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