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Question Paper Code	12205
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023
Seventh Semester
Civil Engineering
20CYOE905 - AIR POLLUTION AND CONTROL ENGINEERING
(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|---|-------------------------------|
| 1. Define air pollution. | 2,K1,CO1 |
| 2. Draw the layers of the atmosphere. | 2,K1,CO1 |
| 3. Define atmospheric stability. | 2,K2,CO3 |
| 4. What do you mean by stack plume patterns? | 2,K2,CO3 |
| 5. Mention any two control equipment for removing fine particulate matters. | 2,K2,CO4 |
| 6. Write two advantages of gravity separators. | 2,K2,CO4 |
| 7. Mention any four control equipment for removing gaseous contaminants. | 2,K1,CO5 |
| 8. List the factors influencing the efficiency of absorption process. | 2,K2,CO5 |
| 9. Write the sources of indoor air pollution. | 2,K2,CO6 |
| 10. Define sick building syndrome. | 2,K1,CO6 |

PART - B (5 × 13 = 65 Marks)
Answer ALL Questions

- | | |
|---|-----------|
| 11. a) (i) Explain the scales of air pollution. | 8,K2,CO1 |
| (ii) Explain the various sources of air pollution. | 5,K2,CO1 |
| OR | |
| b) (i) Enumerate the effect of air pollution on human health. | 8,K2,CO1 |
| (ii) Write the national air quality standards for industrial and residential areas. | 5,K2,CO1 |
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| 12. a) Describe diffusion theories in the context of air pollution control. | 13,K2,CO3 |
| OR | |
| b) Describe with neat sketches the plume dispersion under different stability classes. | 13,K2,CO3 |
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| 13. a) Explain with neat sketch the working principle, advantages and disadvantages of an Electrostatic precipitator. | 13,K2,CO4 |

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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OR

- b (i) Discuss in detail about the factors affecting selection of control equipment. *8,K2,CO4*
(ii) Explain the gravity separators. *5,K2,CO4*

14. a) Explain with neat sketch of the working principle and monitoring of an incinerator. *13,K2,CO5*

OR

- b) (i) Write a short note about condensation process with example. *8,K2,CO5*
(ii) Explain briefly about bio-filters. *5,K2,CO5*

15. a) What are the common sources and effect of noise pollution? List out the control and preventive measures of noise pollution. *13,K2,CO6*

OR

- b) Define IAQ. What causes Indoor Air Pollution? List few Indoor Air Pollutants and their health effects. *13,K2,CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Discuss in detail about the effects of air pollution on human beings, animals and vegetation. *15,K2,CO2*

OR

- b) How air pollutant produces economic effects. Explain in detail. *15,K2,CO2*