

CBCS SCHEME



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17CV/CT551

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021 Air Pollution and Control

Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. Draw neat sketches wherever necessary.

Module-1

- 1 a. Define air pollution. Explain the classification and properties of air pollution. (10 Marks)
b. Explain photochemical smog and Bhopal gas tragedy also explain causes of its. (10 Marks)

OR

- 2 a. Define inversion. Briefly explain the different types of inversion with neat sketch. (10 Marks)
b. List the meteorological factors influencing air pollution. (10 Marks)

Module-2

- 3 a. With a neat sketch, explain different types of environmental lapse rate. (10 Marks)
b. Explain the term Environmental Lapse Rate (ELR), Adiabatic Lapse Rate (ALR) and wind rose. (10 Marks)

OR

- 4 a. Explain preliminary considerations and stages of sampling. (10 Marks)
b. Write a brief procedure for collection of gaseous air pollutants from the ambient atmosphere. (10 Marks)

Module-3

- 5 a. Estimate the effective height of stack with the following data :
i) Physical stack height = 150m
ii) Inside diameter of stack of exit = 1.5m
iii) Wind velocity = 2.5m/sec
iv) Air temperature = 20°C
v) Pressure = 1000 milli bars
vi) Stack gas velocity = 8m/sec
vii) Stack gas temperature = 130°C. (10 Marks)
b. Briefly explain any one method of measuring SO₂ in the stack. (10 Marks)

OR

- 6 a. Explain with neat sketches the principle and working of the following :
i) Cyclone separator
ii) Electrostatic precipitators. (10 Marks)
b. Explain the advantages and disadvantages of scrubbers and fabric filters. (10 Marks)

Module-4

- 7 a. Define particulate matter and gaseous pollutants. Explain the working principle of settling chambers. (12 Marks)
b. Enumerate the various analytical methods available for monitoring of ambient and stack. (08 Marks)



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OR

- 8 a. How automobile emission are controlled. (10 Marks)
b. Explain briefly the emission of the gasoline driven vehicles and diesel driven vehicles. (10 Marks)

Module-5

- 9 a. Define noise pollution. Explain sources and effects of noise pollution. (10 Marks)
b. Write brief note on indoor air pollution. (10 Marks)

OR

- 10 Write brief note on :
a. Ambient air quality standards
b. Environmental Acts
c. Acid rain and its effects
d. Kyoto protocol
e. Global warming. (20 Marks)

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