



K. K. Wagh Institute of Engineering Education & Research, Nashik
(An Autonomous Institute From A.Y. 2022-23)

WINTER-2025	
Exam Seat No.:	
Academic Year:2025-2026	Semester: VII
Class: FINAL	Program: B.Tech
Branch Code: CHE	Pattern:2022
Name of Course: Industrial Pollution and Control	Course Code:CHE224005A
Max. Marks:60	Duration:2.30 Hrs.

Instructions: Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.

1. This question paper contains 2 page(s).
2. Answer to each new question is to be started on a new page.
3. Assume suitable data wherever required, but justify it.
4. Draw the neat labelled diagrams, wherever necessary.
5. The last columns indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question.

Marks CO

Question No. 1

- 1a) Explain the different types of pollution caused by chemical industries with suitable examples. (6) CO1

Question No. 2

- 2a) Explain the process of collecting particulate matter using a high-volume sampler, and apply it to assess ambient air quality. (6) CO2

Question No. 3

- 3a) Examine the working principles and constructional differences between fabric filters and electrostatic precipitators (ESP). (8) CO3

OR

- 3b) Design and analyze the collection efficiency of gravitational settling chambers and cyclone separators. (8) CO3
- 3c) Design and compare the design and application of absorption and adsorption equipment for the control of gaseous emissions. (8) CO3

OR

- 3d) Critically evaluate the performance of centrifugal scrubbers versus wet scrubbers in removing fine particulates from exhaust gas (8) CO3

Question No. 4

- 4a) Describe the typical bacterial growth curve and its relevance to biological wastewater treatment. (8) CO3

OR

- 4b) Compare and contrast suspended growth processes (like activated sludge and aerated lagoons) with attached growth processes (like trickling filters and rotary drum filters) (8) CO3
- 4c) Explain anaerobic wastewater treatment processes and the conditions required for their successful operation. (8) CO3

OR

- 4d) **Briefly study the advanced methods used in tertiary wastewater treatment for contaminant removal and final disinfection.** (8) CO3

Question No. 5

- 5a) **What are the primary health and environmental effects of improper chemical waste disposal?** (8) CO4

OR

- 5b) **Detail the primary methods used for the treatment and disposal of chemical waste.** (8) CO4

- 5c) **Explain the health risks associated with improper biomedical waste handling.** (8) CO4

OR

- 5d) **Describe the importance of segregation at the source for biomedical waste management.** (8) CO4

..... End of question paper.....