



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

SUMMER-2024	
Exam Seat No.:	
Academic Year:2023-2024	Semester:II
Class:FY	Program:B.Tech Chemical Engineering
Branch Code:CHE	Pattern:2023
Name of Course:Introduction to Chemical Engineering	Course Code:2300118B
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 pages.
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.

Question No. 1 Attempt following Question

- 1a) Define chemical engineering and explain its impact on daily life. (6) CO1

Question No. 2 Attempt following Question

- 2a) Find equivalent weight of HCl, Na_2CO_3 , CaCl_2 . (6) CO1, CO2, CO5

Question No. 3 Attempt following Question

- 3a) What is extraction? Explain liquid- liquid extraction in detail. (8) CO1, CO2, CO3

OR

- 3b) Describe gas absorption and drying with suitable examples. (8) CO1, CO2, CO3

- 3c) Define unit operation. Explain distillation operation with neat sketch and industrial examples. (8) CO1, CO2, CO3

OR

- 3d) Classify unit operation. Explain leaching in detail. (8) CO1, CO2, CO3

Question No. 4 Attempt following Question

- 4a) What is unit process? Explain hydrogenation and pyrolysis with suitable examples. (8) CO1, CO2, CO4

OR

- 4b) Define chlorination. Explain Chlorination of methane and benzene with reactions. (8) CO1, CO2, CO4

- 4c) Explain the following terms of unit process a) conversion b) yield c) selectivity. (8) CO1, CO2, CO4

OR

- 4d) Explain the following unit process (8) CO1, CO2, CO4
i) esterification ii) saponification iii) dehydration

Question No. 5 Attempt following Question

- 5a) Describe temperature scale. Explain briefly bimetallic thermometer with a neat sketch. (8) CO1, CO2

OR

- 5b) Describe pressure measurement. Explain inclined tube manometer with neat sketch. (8) CO1, CO2

- 5c) What is level measurement? How does it measure using bob and tape and side glass level indicator? (8) CO1, CO2

OR

- 5d) What are personal protective equipment (PPE)? What are their characteristics? Describe different personal protective equipments. (8) CO1, CO2

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